

1010 RECEIVED PCT/TO 12 MAR 2002

FORM PTO-150		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER 324-142
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (if known, see 37 CFR 1.9) 10/070801
INTERNATIONAL APPLICATION NO. PCT/FR00/02499	INTERNATIONAL FILING DATE 7 September 2000 (07.09.2000)	PRIORITY DATE CLAIMED 13 September 1999 (13.09.1999)	
TITLE OF INVENTION VALIDATION OF AN OPERATION DURING A CALL BETWEEN TWO TERMINALS VIA A DIGITAL NETWORK			
APPLICANT(S) FOR DO/EO/US Jean-Paul DUMORTIER and Eric HANNECART			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1). 3. <input type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date. 4. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input checked="" type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). <input type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US) 5. <input checked="" type="checkbox"/> A English translation of the International Application into English (35 U.S.C. 371(c)(2)). a. <input checked="" type="checkbox"/> is attached hereto <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154 371 (c)(2) 6. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input checked="" type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). <input type="checkbox"/> have been transmitted by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendment has NOT expired. <input type="checkbox"/> have not been made and will not be made. 7. <input type="checkbox"/> A English translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 8. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 9. <input type="checkbox"/> A English translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). Items 11. to 20. below concern other document(s) or information included: 11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 14. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A change of power of attorney and/or address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825 18. <input type="checkbox"/> A second copy of the published international application under 35 U.S.C. 154(d)(4) 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4) 20. <input checked="" type="checkbox"/> Other items or information. a. PCT/IB/308 b. PCT/IB/306 c. PCT/IPEA/409			

U.S. APPLIC. NO. (if known, see 37 CFR 1.5) <div style="font-size: 24pt; font-weight: bold; margin-top: 5px;">10/070801</div>		INTERNATIONAL APPLICATION NO. <div style="font-weight: bold; margin-top: 5px;">PCT/FR00/02499</div>		ATTORNEY'S DOCKET NUMBER <div style="font-weight: bold; margin-top: 5px;">324-142</div>	
21. <input checked="" type="checkbox"/> The following fees are submitted: <div style="margin-top: 5px;"> Basic National Fee (37 CFR 1.492(a)(1)-(5)): Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$ 1040.00 International Search fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO and JPO \$ 890.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$ 740.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$ 710.00 International preliminary examination fee paid to USPTO (37 CFR 1.482) And all claims satisfied provisions of PCT Article 33(2)-(4) \$ 100.00 </div> <div style="text-align: right; margin-top: 10px;"> ENTER APPROPRIATE BASIC FEE AMOUNT = \$ 890.00 </div>				CALCULATIONS PTO USE ONLY	
Surecharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(c)).				\$ 0.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total Claims	11 - 20 =	0	X \$18.00	\$ 0.00	
Independent Claims	2 - 3 =	0	X \$84.00	\$ 0.00	
Multiple dependent claim(s) (if applicable)			+ \$270.00	\$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				\$ 890.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$ 0.00	
SUBTOTAL =				\$ 890.00	
Processing fee of \$130.00 for furnishing the English translation later than the <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$ 0.00	
TOTAL NATIONAL FEE =				\$ 890.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28; 3.31) \$40.00 per property				\$ 0.00	
TOTAL FEES ENCLOSED =				\$ 890.00	
				Amount to be: Refunded	\$
				Charged	\$
a. <input type="checkbox"/> A check in the amount of \$ XXX.XX to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. XXX in the amount of \$ XXX to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-1337. A duplicate copy of this sheet is enclosed. d. <input checked="" type="checkbox"/> Fees are to be charged to a credit card WARNING: information on this form may be public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO: LOWE HAUPTMAN GILMAN & BERNER, LLP Customer No. 22429 1700 Diagonal Road, Suite 310 Alexandria, VA 22314 (703) 684-1111				<div style="text-align: center;"> SIGNATURE Allan M. Lowe NAME <div style="border: 1px solid black; padding: 2px; display: inline-block;">19,641</div> REGISTRATION NUMBER </div>	

Docket No.: 324-142

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	
	:	
Jean-Paul DUMORTIER et al.	:	
	:	
Serial No. Not yet assigned	:	Group Art Unit:
	:	
Filed: herewith	:	Examiner: N/A

For: VALIDATION OF AN OPERATION DURING A CALL BETWEEN TWO
TERMINALS VIA A DIGITAL NETWORK

PRELIMINARY AMENDMENT

ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

Dear Sir:

Preliminary to examination of the above-referenced application, please amend the
application:

IN THE CLAIMS:

Please amend claims 1 to 11 as follows:

1. (Amended) A method of validating an operation during a call set up between
first terminal and second terminal via a digital telecommunication network, said call using a
logical channel of a digital multiplex link including another logical channel to carry data, said
method comprising the following steps

- during said call, setting up a link between said first terminal and a third terminal via

- said other logical channel of the digital multiplex link,
- transferring between said first terminal and said third terminal via said other logical channel, confidential data not accessible to said second terminal for validating said operation effected during said call between said first terminal and second terminal, and
 - sending an acknowledgement message confirming the validation of said operation from said third terminal to the second terminal.

2. (Amended) A method according to claim 1, wherein said digital telecommunication network is an ISDN network and said step of setting up said link between said first terminal and second terminal includes opening a virtual circuit on a signaling channel.

3. (Amended) A method according to claim 1, wherein said digital telecommunication network is an ISDN network and said link between said first terminal and third terminal uses a data channel.

4. (Amended) A method according to claim 1, further comprising a step of setting up a link between said second terminal and third terminal via said network at the request of said second terminal prior to said step of setting up said link between said first terminal and third terminal, to request validation of said operation and then the sending of said acknowledgement message from said third terminal to said second terminal.

5. (Amended) A method according to claim 4, wherein said step of setting up said link between said second terminal and third terminal includes opening a virtual circuit on a signaling channel.

6. (Amended) A method according to claim 4, wherein said link between said second terminal and third terminal and said call between said first terminal and second terminal

are multiplexed on the same physical medium serving said second terminal from said network.

7. (Amended) A method according to claim 1, further comprising, after said second terminal has received said acknowledgement message, a step of setting up another link between said second terminal and first terminal by opening a virtual circuit on a signaling channel.

8. (Amended) A method according to claim 1, wherein said digital telecommunication network comprises a digital radio telephone network and said step of setting up said link between said first terminal and third terminal uses a short message service available on said radio telephone network.

9. (Amended) An arrangement of terminals including first terminal and second terminal for validating an operation during a call set up between said first terminal and second terminal via a digital telecommunication network and using a logical channel of a multiplex digital link including another logical channel to carry data, and a third terminal between which and said first terminal a link is set up during said call via said other channel of said multiplex digital link, between which and said first terminal confidential data not accessible to said second terminal is exchanged via said other channel for validating said operation effected during the call between said first terminal and second terminal, and from which an acknowledgement message confirming validation of said operation is sent to said second terminal.

10. (Amended) The arrangement of terminals according to claim 9, wherein said first terminal is that of a user, such as a customer, and said second terminal is that of another user, such as a vendor, so that said operation validated during said call between said first terminal and second terminal is a telepayment effected by said user of said first terminal to the benefit of said user of said second terminal and validated by said confidential data exchanged

Serial No. Not Yet Assigned

Docket No. 324-142

between said first terminal and third terminal.

11. (Amended) The arrangement according to claim 10, wherein said third terminal is a terminal of a bank which manages an account opened by the user of said second terminal.

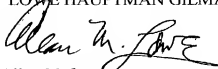
REMARKS

The above-referenced application is amended to delete the multiple dependencies and to conform with U.S. Patent Practices.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "Marked-Up Version Showing Changes".

Respectfully submitted,

LOWE HAUPTMAN GILMAN & BERNER, LLP



Allan M. Lowe
Registration No. 19,641

Date: March 12, 2002
1700 Diagonal Road, Suite 310
Alexandria, Virginia 22314
Telephone: (703) 684-1111
Facsimile: (703) 518-5499
AML:EJ

MARKED-UP VERSION SHOWING CHANGES

WHAT WE CLAIM IS :

1. A method of validating an operation during a call set up between first and second terminals $[T1, T2]$ via a digital telecommunication network $[(10)]$, said call using a logical channel of a digital multiplex link including another logical channel to carry data, characterized in that it comprises:
 - during said call, setting up $[(26)]$ a link between the first terminal $[T1]$ and a third terminal $[T3]$ via said other logical channel of the digital multiplex link,
 - transferring $[(28)]$ confidential data between the first terminal $[T1]$ and the third terminal $[T3]$ via said other logical channel, the confidential data being intended for validating the operation effected during the call between the first and second terminals $[T1, T2]$, and being not accessible to the second terminal $[T2]$, and
 - sending $[(32)]$ an acknowledgement message confirming the validation of said operation from the third terminal $[T3]$ to the second terminal $[T2]$.
2. A method according to claim 1, characterized in that the digital telecommunication network is an ISDN network $[(10)]$ and setting up the link between the first and second terminals $[T1, T3]$ includes opening a virtual circuit on a signaling channel $[(D)]$.
3. A method according to claim 1, characterized in that the digital telecommunication network is an ISDN network and the link between the first and third

MARKED-UP VERSION SHOWING CHANGES

terminals $\{T1, T3\}$ uses a data channel $\{B\}$.

4. A method according to any of claims 1 $\{to\}$ $3\}$, characterized in that it further comprises setting up $\{22\}$ a link between the second and third terminals $\{T2, T3\}$ via the network $\{10\}$ at the request of the second terminal $\{T2\}$ prior to setting up $\{26\}$ the link between the first and third terminals $\{T1, T3\}$, to request validation $\{30\}$ of said operation and then the sending $\{32\}$ of the acknowledgement message from the third terminal $\{T3\}$ to the second terminal $\{T2\}$.

5. A method according to claim 4, characterized in that the setting up $\{22\}$ of the link between the second and third terminals $\{T2, T3\}$ includes opening a virtual circuit on the signaling channel $\{D\}$.

6. A method according to claim 4 $\{or\}$ $5\}$, characterized in that the link between the second and third terminals $\{T2, T3\}$ and the call between the first and second terminals $\{T1, T2\}$ are multiplexed on the same physical medium serving the second terminal $\{T2\}$ from the network $\{10\}$.

claim 1.
7. A method according to any one of $\{claims\}$ $2\}$ to $6\}$, characterized in that it further comprises, after the second terminal $\{T2\}$ has received the acknowledgement message, setting up $\{34\}$ another link between the second and first terminals $\{T2, T1\}$ by opening a virtual circuit on a signaling channel $\{D\}$.

MARKED-UP VERSION SHOWING CHANGES

8. A method according to any one of ^{claim 1} [claims 1 to], characterized in that the digital telecommunication network comprises a digital radio telephone network and
5 setting up said link between the first and third terminals [T1, T3] uses a short message service available on the mobile radio telephone network.

9. An arrangement of terminals including first and
10 second terminals [T1, T2] for validating an operation during a call set up between them via a digital telecommunication network [(10)] and using a logical channel of a multiplex digital link including another logical channel to carry data, characterized in that it
15 comprises a third terminal [T3] between which and the first terminal [T1] a link is set up during said call via said other channel of the multiplex digital link, between which and the first terminal [T1] confidential data is exchanged via said other channel, confidential data being
20 intended being intended for validating the operation effected during the call between the first and second terminals [T1, T2] and being not accessible to the second terminal [T2], and from which an acknowledgement message confirming validation of said operation is sent to the
25 second terminal [T2].

10. An arrangement of terminals according to claim 9, characterized in that the first terminal [T1] is that of a user, such as a customer, and the second terminal
30 [T2] is that of another user, such as a vendor, so that

1. 100-67 VERSION SHOWING CHANGES

said operation validated during the call between the first and second terminals [T1, T2] is a telepayment effected by the user of the first terminal [T1] to the benefit of the user of the second terminal [T2] and validated by the confidential data transferred between the first and third terminals [T1, T3].

11. An arrangement according to claim 10,
characterized in that the third terminal $\{T3\}$ is that of
10 a bank or the like which manages an account opened by the
user of the second terminal $\{T2\}$.

5

10

SPECIFICATION

15

TO WHOM IT MAY CONCERN

Be it known that we, DUMORTIER Jean-Paul and HANNECART
Eric, citizens of the French Republic and residing at :

- Rue de Secqueville, 14740 PUTOT EN BESSIN, FRANCE
- 20 - 196, rue du Buisson, 59700 MARCQ EN BAROEUL, FRANCE

have invented new and useful improvements in :

25

**VALIDATION OF AN OPERATION DURING A CALL BETWEEN TWO
TERMINALS VIA A DIGITAL NETWORK**

of which the following is a specification :

30

2/prt

SPECIFICATION**REFERENCE TO RELATED APPLICATION**

5 This application is a continuation of the PCT International Application No. PCT/FR00/02499 filed September 07, 2000, which is based on the French Application No. 99-11495 filed September 13, 1999.

BACKGROUND OF THE INVENTION**1 - Field of the Invention**

15 The invention relates to a method of validating an operation during a call set up between two terminals via a digital telecommunication network. It applies in particular to validating telepayment operations, for example using confidential data, such as credit or debit card numbers, identification or authentication codes,
20 etc.

2 - Description of the Prior Art

25 If the digital telecommunication network is an integrated services digital network ISDN, the user terminals are connected to this network by bidirectional digital lines each of which carries multiplexed digital channels including at least two logical data channels B and one logical signaling channel D. Dialog calls between
30 terminals use circuit-switched B channels, the D channel

being used for user-network signaling and being able to carry packet-switched user data at low bit rate.

To transmit data during a conversation call using a data channel B, it is necessary to interrupt the conversation in progress between the users, and as a result the link is then allocated alternately either to the conversation or to carry data. The data carried in this way is not protected against attempts to intercept it and to use it in a fraudulent or unauthorized manner.

If the digital telecommunication network used is a digital cellular radio telephone network, for example a GSM network, one of the terminals being a mobile radio telephone, the drawbacks mentioned above are again encountered if data must be exchanged during a call, which has to be interrupted to carry the data.

OBJECT OF THE INVENTION

One object of the invention is to avoid these drawbacks by making optimum use of the functions of the digital telecommunication networks.

SUMMARY OF THE INVENTION

To this end the invention provides a method of validating an operation during a call set up between first and second terminals via a digital telecommunication network, said call using a logical channel of a digital multiplex link including another logical channel to carry data, characterized in that it

comprises :

- during said call, setting up a link between the first terminal and a third terminal via said other logical channel of the digital multiplex link,

5 - transferring confidential data between the first terminal and the third terminal via said other logical channel, confidential data being intended for validating the operation effected during the call between the first and second terminals and being not accessible to the
10 second terminal, and

- sending an acknowledgement message confirming the validation of said operation from the third terminal to the second terminal.

The confidential data used to validate said
15 operation is therefore, in accordance with the invention, sent over a dedicated channel, separate from the channel used for the call between the first and second terminals, without it being necessary to interrupt the call and without the second terminal having access to the
20 confidential data, since the data is exchanged only between the first and third terminals and independently of the second terminal.

In a preferred embodiment of the invention, the
25 digital telecommunication network is an ISDN network and setting up the link between the first and second terminals includes opening a virtual circuit on a signaling channel.

ISDN users can benefit from Permanent Logical Link
30 (PLL) services for simultaneous bidirectional transfer of

data structured into frames on their ISDN access D channels.

5 Failing this, if the user of the first terminal does not have the benefit of the PLL services, the link between the first and third terminals for the transfer of confidential data can use a second data channel B of the user ISDN access.

10 According to another characteristic of the invention, the method also comprises setting up a link between the second and third terminals via the network at the request of the second terminal prior to setting up the link between the first and third terminals, to request validation of said operation and then the sending of the acknowledgement message from the third terminal to 15 the second terminal.

The link between the second and third terminals advantageously uses the signaling channel D of the ISDN access line of the second terminal.

20 As an alternative to this, the link between the first and third terminals is set up at the initiative of the first terminal, to validate said operation, and the link between the third terminal and the second terminal is then set up after said validation, to send an acknowledgement message to the second terminal.

25 The invention also provides for another link to be set up between the first and second terminals by opening a virtual circuit on the signaling channel (D channel), after the acknowledgement message is received by the second terminal, to transfer data from the second 30 terminal to the first terminal. For example, this applies

to downloading data from the second terminal into the first terminal following a transaction.

In a variant of embodiment of the invention, the digital telecommunication network comprises of a digital
5 radio telephone network and setting up said link between the first and third terminals uses a short message service SMS available on the mobile telephone network.

The invention also concerns the arrangement of terminals including first and second terminals for
10 validating an operation during a call set up between them via a digital telecommunication network and using a logical channel of a multiplex digital link including another logical channel to carry data. This arrangement is characterized in that it comprises a third terminal
15 between which and the first terminal a link is set up during said call via said other channel of the multiplex digital link, between which and the third terminal confidential data is exchanged via said other channel, confidential data being intended for validating the
20 operation effected during the call between the first and second terminals, and being not accessible to the second terminal, and from which an acknowledgement message confirming validation of said operation is sent to the second terminal.

25 The invention applies generally to electronic commerce (e-business). In this case, the first terminal is that of a user, such as a customer, and the second terminal is that of another user, such as a vendor, so that said operation validated during the call between the
30 first and second terminals is a telepayment effected by

an user of the first terminal to the benefit of an user of the second terminal and validated by the confidential data transferred between the first and third terminals. The third terminal is then that of a bank or the like which manages an account opened by the user of the second terminal.

The invention also applies when calls between terminals can continue only after identification or authentication of the calling users, verification of access codes, etc., and the identification, authentication, verification and like operations are performed in a secure manner by a third party.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and other features, details and advantages of the invention will become more clearly apparent in the course of the following description, which is given with reference to the accompanying drawings, in which:

- FIG. 1 is a block diagram of a plurality of terminals connected via a digital network, carrying out a preferred embodiment of the method according to the invention; and

- FIG. 2 is a flowchart of the essential operations of the method according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In FIG. 1, digital terminals T1 and T2 are connected to access points of an integrated services digital network 10 by bidirectional digital lines 12 which carry multiplexed digital channels including at least two data channels B and one signaling channel D in the case of a basic access, or 30 data channels B and one signaling channel D in the case of a primary access.

As an alternative to this, the digital user lines 12 are supported by the (Asymmetric Digital Subscriber Line) ADSL transmission technology.

If the invention is applied to electronic commerce and telepayment, the first terminal T1 is that of a customer or a purchaser, for example, and the second terminal T2 is that of a vendor.

The call between the terminals T1 and T2 is essentially a conversation, during which the customer confirms an operation such as a purchase.

The call uses one of the data channels B of the digital line 12 in each of the two transmission directions.

If the vendor subscribes to a Permanent Logical Link (PLL) service, the terminal T2 can, during the call with the terminal T1 of the customer, request the setting up of a link with a third terminal T3 of a telepayment manager, for example the bank of the vendor, by opening a virtual circuit in the signaling channel D. Using the D channel link between the terminals T2 and T3, the vendor transmits to its bank the characteristics of the purchase effected by the customer and including the identity of

the customer, details of the items purchased, and the total amount of the purchase.

If the customer also subscribes to the PLL service, the terminal T3 of the vendor's bank requests the setting
5 up of a link with the terminal T1 by opening a virtual circuit on the signaling channel D. A payment procedure using confidential data of the customer is then executed, this procedure relying on mechanisms defined by the French organization ADTP (Association pour le
10 Développement du Télépaiement - Telepayment Development Association), for example, and which include the following functional steps:

- identification of the item to be paid for and presentation of the item reference and the invoice
15 amount,
- presentation of the payment instruction and confirmation thereof by the customer,
- payment procedure, involving the customer's bank and the vendor's bank,
- 20 - display of a certificate of execution of the payment instruction, and
- finalization of the payment transaction.

The confidential data exchanged between the terminals T1 and T3 is not accessible from the vendor
25 terminal T2, channels used for the links between the terminals T1 and T2 and between the terminals T1 and T3 being separate, even if they are multiplexed in the same digital telephone user line serving the terminal T1.

At the end of the payment procedure the terminal T3
30 validates the customer's payment by transmitting an

acknowledgement message to the terminal T2 via the link previously set up between them, and then clears down the link by releasing the corresponding D channel, after clearing down the D channel link with the terminal T1.

5 When confirmation of payment is received, the vendor ships the items purchased to the customer. If the purchase takes the form of digital data, the vendor terminal T2 opens a virtual circuit via the signaling channel D to send the data to the customer terminal T1.

10 The virtual circuits which are opened on the signaling channels D use a public packet-switched public data network (PPSDN) 14 between the two ends of the ISDN 10 connected to the communicating terminals.

15 If the vendor, the telepayment manager and/or the customer do not have the benefit of PLL services, the links between their terminals use only the data channels B.

20 When the vendor terminal T2 is communicating with the customer terminal T1 and with the telepayment manager terminal T3, the vendor can also set up a link via a second data channel B with a wholesaler terminal T4, for example to replenish the vendor stock.

25 The essential steps of the method are shown in the schematic flowchart of FIG. 2.

 The first step 16 of the method sets up a link between the terminals T1 and T2 using an outgoing data channel B from the terminal T1.

30 The next step 18 is a conversation between the users of the two terminals relating to a purchase 20 made

by the user of the terminal T1. To finalize this purchase, the terminal T2 requests the setting up of a link with the terminal T3 of the telepayment manager by opening a virtual circuit on a signaling channel D, as shown in step 22. When that link has been set up, a request 24 to validate the purchase to the terminal T3 is sent from terminal T2 and is followed by setting up a link between the latter and the customer terminal T1, as shown in step 26, by opening a virtual circuit on a signaling channel D if the user of the terminal T1 subscribes to the PLL service.

The next step 28 includes exchanging confidential data between the terminals T1 and T3 to enable a validation 30 of the purchase.

When this validation has been obtained, the terminal T3 clears down the D channel link between itself and the terminal T1 and an acknowledgement message is sent from the terminal T3 to the terminal T2 at the following step 32 of the method, on the link previously set up between the terminals T2 and T3, which is then cleared down.

In response to the acknowledgement message in the terminal T2 confirming payment for the purchase by the user of the terminal T1, the vendor at the terminal T2 can then ship or have them shipped, as shown in 34, the purchased objects or items to the user of the terminal T1. Where appropriate, shipping can include downloading of digital data from the terminal T2 to the terminal T1 by opening a virtual circuit on a signaling channel D.

During the call between the terminals T1 and T2,

which continues until the terminal T2 receives the acknowledgement message, the user of the terminal T2 may set up a link with the terminal T4 of a wholesaler, as shown in 36, this link using a second data channel B to
5 access the ISDN network from the terminal T2. The vendor sends the wholesaler a restocking request from the terminal T2 via this link, as shown in 38.

In a variant, the first terminal T1 is a mobile
10 radio telephone terminal and the invention is applied to validating an operation in a call involving said mobile radio telephone terminal via a digital cellular radio telephone network which offers users a short message service (SMS). Short messages are processed in the radio
15 telephone network in the same way as signaling and transmitted by packets independently of a call involving the radio telephone terminal. The telepayment validation confidential data is then stored in non-volatile EEPROM memory in the SIM user identification module card
20 removably incorporated into the radio telephone terminal.

Also, some radio telephone terminals simultaneously provide a conventional telephone service and a general packet radio service GPRS which defines a packet-switched network architecture, and the GPRS network can be
25 connected to fixed data networks in accordance with the X.25 recommendation, and thus to an ISDN network.

WHAT WE CLAIM IS :

1. A method of validating an operation during a call set up between first and second terminals (T1, T2) via a digital telecommunication network (10), said call using a logical channel of a digital multiplex link including another logical channel to carry data, characterized in that it comprises:

- during said call, setting up (26) a link between the first terminal (T1) and a third terminal (T3) via said other logical channel of the digital multiplex link,

- transferring (28) confidential data between the first terminal (T1) and the third terminal (T3) via said other logical channel, the confidential data being intended for validating the operation effected during the call between the first and second terminals (T1, T2), and being not accessible to the second terminal (T2), and

- sending (32) an acknowledgement message confirming the validation of said operation from the third terminal (T3) to the second terminal (T2).

2. A method according to claim 1, characterized in that the digital telecommunication network is an ISDN network (10) and setting up the link between the first and second terminals (T1, T3) includes opening a virtual circuit on a signaling channel (D).

3. A method according to claim 1, characterized in that the digital telecommunication network is an ISDN network and the link between the first and third

terminals (T1, T3) uses a data channel (B).

4. A method according to any of claims 1 to 3, characterized in that it further comprises setting up
5 (22) a link between the second and third terminals (T2, T3) via the network (10) at the request of the second terminal (T2) prior to setting up (26) the link between the first and third terminals (T1, T3), to request validation (30) of said operation and then the sending
10 (32) of the acknowledgement message from the third terminal (T3) to the second terminal (T2).

5. A method according to claim 4, characterized in that the setting up (22) of the link between the second
15 and third terminals (T2, T3) includes opening a virtual circuit on the signaling channel (D).

6. A method according to claim 4 or 5, characterized in that the link between the second and
20 third terminals (T2, T3) and the call between the first and second terminals (T1, T2) are multiplexed on the same physical medium serving the second terminal (T2) from the network (10).

25 7. A method according to any one of claims 2 to 6, characterized in that it further comprises, after the second terminal (T2) has received the acknowledgement message, setting up (34) another link between the second and first terminals (T2, T1) by opening a virtual circuit
30 on a signaling channel (D).

8. A method according to any one of claims 1 to 7, characterized in that the digital telecommunication network comprises a digital radio telephone network and
5 setting up said link between the first and third terminals (T1, T3) uses a short message service available on the mobile radio telephone network.

9. An arrangement of terminals including first and
10 second terminals (T1, T2) for validating an operation during a call set up between them via a digital telecommunication network (10) and using a logical channel of a multiplex digital link including another logical channel to carry data, characterized in that it
15 comprises a third terminal (T3) between which and the first terminal (T1) a link is set up during said call via said other channel of the multiplex digital link, between which and the first terminal (T1) confidential data is exchanged via said other channel, confidential data being
20 intended being intended for validating the operation effected during the call between the first and second terminals (T1, T2) and being not accessible to the second terminal (T2), and from which an acknowledgement message confirming validation of said operation is sent to the
25 second terminal (T2).

10. An arrangement of terminals according to claim 9, characterized in that the first terminal (T1) is that of a user, such as a customer, and the second terminal
30 (T2) is that of another user, such as a vendor, so that

said operation validated during the call between the first and second terminals (T1, T2) is a telepayment effected by the user of the first terminal (T1) to the benefit of the user of the second terminal (T2) and
5 validated by the confidential data transferred between the first and third terminals (T1, T3).

11. An arrangement according to claim 10, characterized in that the third terminal (T3) is that of
10 a bank or the like which manages an account opened by the user of the second terminal (T2).

ABSTRACT OF THE DISCLOSURE

Validating an operation during a call set up
between first and second terminals via an integrated
5 services digital network comprises, during said call,
setting up a link between the first terminal and a third
terminal via an ISDN access signaling channel,
transferring confidential data between the first terminal
and the third terminal via this channel, and sending an
10 acknowledgement message confirming validation of the
operation from the third terminal to the second terminal.

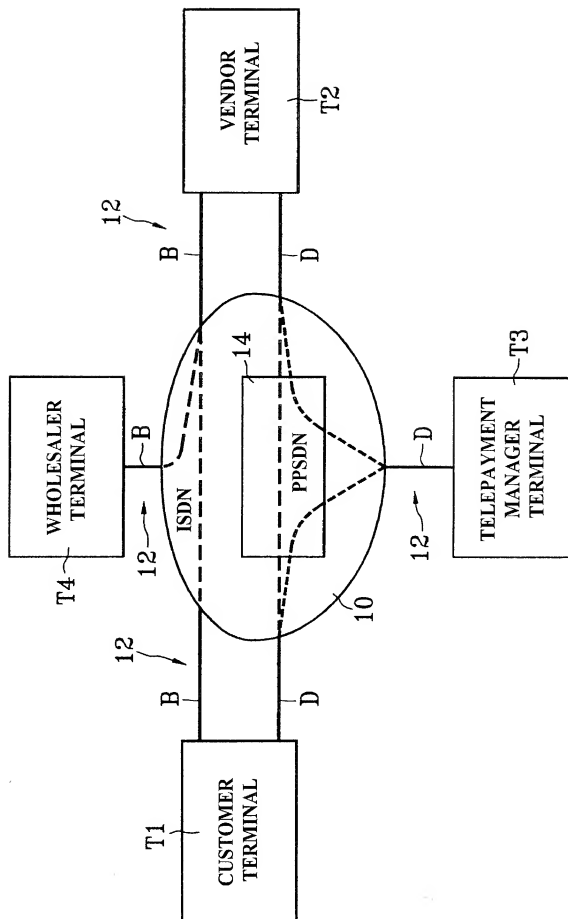
The invention applies in particular to electronic
commerce and to telepayment by means of an ISDN network.

15

(FIG. 1)

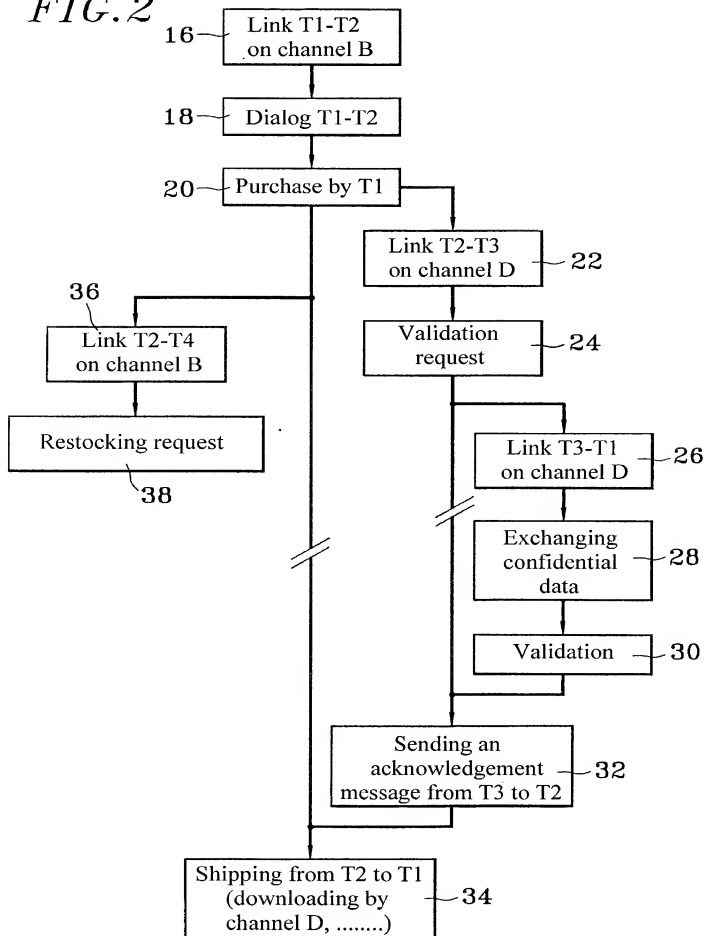
1/2

FIG. 1



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FIG. 2



DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My residence, post office and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter claimed and for which a patent is sought on the invention entitled "Validation of an operation during a call between two terminals via a digital network", the specification of which

☐ is attached hereto ☒ was filed on March 12, 2002 as Application Serial No. 10/070,801 and was amended on (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known to me to be material to patentability in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT international application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):

Number **Country** **Day/Month/Year filed**

99-11495 FRANCE 13/09/1999

Priority Claimed?

Yes **No**

X

I hereby authorize the U. S. attorneys and agents named herein to accept and follow instructions from CABINET MARTINET & LAPOUX as to any actions to be taken in the Patent and Trademark Office regarding this application without direct communication between the U. S. attorney(s) and the undersigned. In the event of a change in the person(s) from whom instructions may be taken, the U.S. attorney(s) will be so notified by the undersigned.

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or Section 365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

PCT/FR00/02499 filed on September 07, 2000

Status : pending

Prior U. S. Application(s):

Serial No.:

Filing Date

Status: Patented, Pending, Abandoned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorney(s) and/or agent(s): Allan M. Lowe, Reg. No. 19,641; Israel Gopstein, Reg. No. 27,333; Benjamin J. Hauptman, Reg. No. 29,310; Kenneth M. Berner, Reg. No. 37,093, Michael G. Gilman, Reg. No. 19,114; and Randy Noranbrock, Reg. No. 42,940, all of

LOWE HAUPTMAN GOPSTEIN GILMAN & BERNER, LLP
1700 Diagonal Road, Suite 310
Alexandria, Virginia 22314

with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and all future correspondence should be addressed to them.

1. Full name of sole or first inventor: DUMORTIER Jean-Paul

Inventor's signature: [Signature]

Date: 5/3/2002

Residence: PUTOT EN BESSIN - FRANCE FRX

Citizenship: FRENCH

Post Office Address: Rue de Sequeville, 14740 PUTOT EN BESSIN, FRANCE

2. Full name of second joint inventor: HANNECART Eric

Inventor's signature: [Signature]

Date: 08/03/2002

Residence: MARCO EN BAROEUL - FRANCE FRX

Citizenship: FRENCH

Post Office Address: 196, rue du Buisson, 59700 MARCQ EN BAROEUL, FRANCE

Full name of third joint inventor :

Inventor's signature :

Date :

Residence :

Citizenship :

Post Office Address :